

Maryland Industrial Partnerships

Matching Awards for collaborative R&D projects between Maryland industry and University System of Maryland faculty

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Creating Partnerships for Innovation

MIPS Overview

- MIPS fosters academic-industrial partnerships for innovation
- Funds from MIPS and Maryland companies go toward accelerating research and knowledge into products
- **Commercialization (and economic development) is a key factor**

Key Points about MIPS

- MIPS projects are conducted by university faculty in conjunction with company researchers
- Proposals are evaluated on technical merit and economic development potential
- Projects are jointly funded by MIPS and companies
- All funding goes toward university project costs

Eligible Campuses

- Bowie State University
- Coppin State University
- Frostburg State University
- Morgan State University
- St. Mary's College of Maryland
- Salisbury University
- Towson University
- U of Baltimore
- U of Maryland, Baltimore
- U of Maryland, Baltimore County
- U of Maryland, College Park
- U of Maryland Eastern Shore
- U of Maryland University College
- U of Maryland Center for Environmental Science

Key Points about MIPS

- MIPS is win-win-win:
 - Companies leverage their R&D funding and gain access to faculty expertise
 - Non-dilutive, non-debt funding
 - Faculty and students gain funding to engage in commercially relevant research
 - State benefits via accelerated and increased revenue

MIPS: The Process

Proposal Evaluation Process

- Scientific/technical evaluation
- **Business/economic review**
- 60 day turnaround from application to award
- 2 funding cycles per year, May and October deadlines
- Proposals due: **May 1 and October 15**

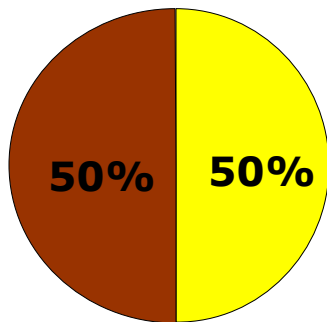
Competition for MIPS Awards

The primary criterion for ranking proposals:

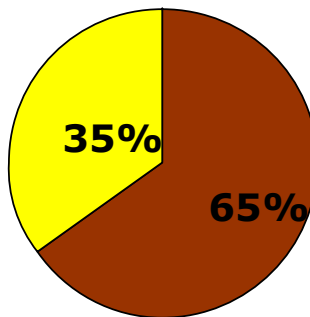
What is the likely degree of long-term job creation in Maryland resulting from the proposed R&D project?

Minimum Company Cash Match

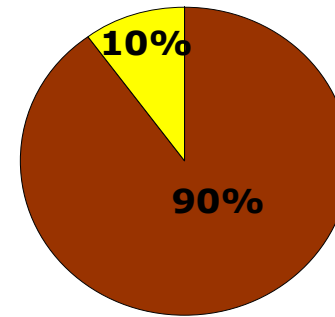
Large Company
>100



Small Company
13 to 100



Start-Up Company*
Up to 12



MIPS offers up to \$100K/year in matching funds for projects for up to two years. With minimum company contributions, total project value can be:

\$200K for startups

\$310K for small companies

\$400K for large companies

*** Plus other requirements**

Minimum Company In-Kind Contribution

As a percentage of University project budget:

| | |
|----------------------|-----|
| Large Company (>100) | 25% |
|----------------------|-----|

| | |
|----------------------------|-----|
| Medium Company (13 to 100) | 30% |
|----------------------------|-----|

| | |
|---------------------------|-----|
| Startup Company (1 to 12) | 35% |
|---------------------------|-----|

Benefits to Companies

- Financial support for commercially applicable research
- Leveraging assets/ outsourcing R&D
- Access to university
 - ❖ faculty & students expertise
 - ❖ facilities
- Companies can establish lasting relationships with faculty experts, hire students

Intellectual Property

- Company has right to an exclusive license to I.P. created by the university research team during the course of a project
- Terms negotiated with campus after the invention

Program Summary

Fifty-three Competitive Rounds

- 1952 Applications Received
- 1086 Different Contracts & Amendments
- 723 Individual Projects
- 520 Companies
- 394 Faculty

MIPS: An Innovative Job Creation Engine for Maryland

5,600 jobs created in MIPS companies
(impacts created 15,000 total jobs)

Leading MIPS products have sold \$28.1B

Annual Tax Revenues

State: \$87M, Counties: \$70M

MIPS Impact Data (1987-2013)

- **Performance of the Top Products MIPS Research Has Contributed to:**

| Company | MIPS-Related Product | Revenue /Sales |
|-----------------------|--|-----------------------|
| MedImmune | Synagis | \$12.5 billion |
| Martek Biosciences | Nutritional oils, primarily DHA, added to infant formula and other foods | \$2.9 billion |
| Hughes Communications | DIRECWAY, now called HughesNet | \$12.7 billion |
| Total: | | \$28.1 billion |

Synagis

MedImmune: Gaithersburg, MD



- Now the 10th best selling biotech drug in the world (past sales approx \$12.5 B)
- Used to prevent respiratory syncytial virus (RSV) disease in infants.
- 2300 employees in Maryland

Formulaid

Martek: Columbia, MD

- Patented blending of nutritional oils (docosahexaenoic acid (DHA) and arachidonic acid (ARA), produced from microalgae
- Aids in the development of the eyes and central nervous system in newborns.
- Martek has licensed to 13 infant formula manufacturers representing more than 2/3 of the world's wholesale infant formula market. Company acquired in 2010.
- 95% of US kids under 5 have consumed this product
- \$352M annual revenue, 200 employees in MD



HughesNet

Hughes Network Systems: Germantown, MD



- **HughesNet is the world's leading broadband by satellite service. Formerly called DirecWay, DirectPC.**
- **More than 2.2 million systems ordered or shipped to customers in 100 countries.**
- **System based on design by Dr. John Baras, Professor of Electrical and Computer Engineering at UM College Park.**
- **\$1.1B annual revenue, 1300 employees in MD**

CryoSpray Ablation™ System

**CSA Medical:
Baltimore, MD**



- New device and treatment for Barrett's esophagus (a pre-cancerous condition)
- Original concept from Bethesda Naval Medical Center
- Product launched in May, 2007
- Start-up CSA Medical recently raised Series A financing
- 39 employees, all hired since 2007

Revolutionary Mobile Health System for Chronic Diseases



**WellDoc Communications:
Baltimore, MD**

- FDA Approved Diabetes Manager System
- 75 Employees in Baltimore City
 - ❖ Started with 3 employees at time of crucial first funding from MIPS in 2007
- MIPS sponsored initial pilot study / clinical trial of WellDoc's system
 - ❖ Trial showed major benefits for diabetes patients
- Company poised for further growth as leader in mobile/I.T. health management for diabetes and other chronic diseases

Bullet Speed Tip Masonry Drill Bit

Black & Decker (Towson, MD)



- **Unique drill bit design**
- **Drills up to two times faster than competitive bits; drills up to six times more holes per battery charge when using a cordless drill**
- **Technology is used in DeWalt line of 29 drill bits**

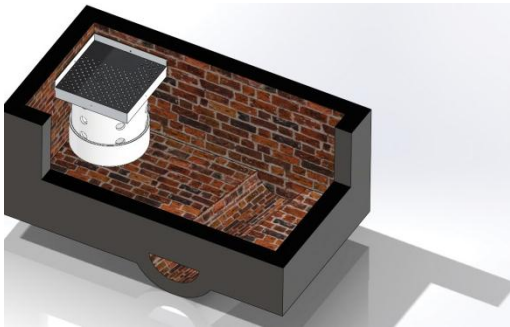
Round 53 – MIPS Projects

- | | |
|-------------------------------------|--|
| • A&G Pharmaceutical Inc. | Mamm-Assure, a test to stratify suspicious BIRAD |
| • Earth Networks | Verification of EN remote energy audits |
| • Fiberight LLC | High-rate anaerobic digester pilot unit |
| • High Impact Environmental Inc. | Agricultural stormwater cascading system |
| • Hoopers Island Oyster Aquaculture | Oyster sorting and grading machine |
| • Metompkin Seafood, Inc. | Automated Spat-on-shell oyster production system |
| • Pothole Pros | Infrared asphalt repair quality assurance |
| • Rehabtics, LLC | Physical rehabilitation software system validation |
| • Remedium Technologies, Inc. | Hemostatic “silly putty” for battlefield wounds |
| • Shore Thing Shellfish LLC | Extension of In-Situ Oyster setting method |
| • vCalc LLC | vCalc |
| • XChanger Companies, Inc. | Evaluation and optimization for XChanger box |

MIPS Partnership with Maryland DNR

- Maryland Dept. of Natural Resources (DNR) funds a subset of MIPS projects targeted at Chesapeake Bay sediment & nutrient reduction
- MIPS receives proposals and performs reviews, DNR selects
- Six projects currently ongoing (\$369K), \$500K in additional manure-to-energy projects (2014-2015)

Beacon Research:
commercial synthetic filter
and drain elements that
remove particulate matter
from storm water runoff.



UMCP

AHPharma: heated chicken
house flooring reduces
ammonia pollution



UMES

Shore Thing Shellfish:
advanced oyster farming;
cleans the Bay



St. Mary's College of Maryland

Web Site and Contact

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